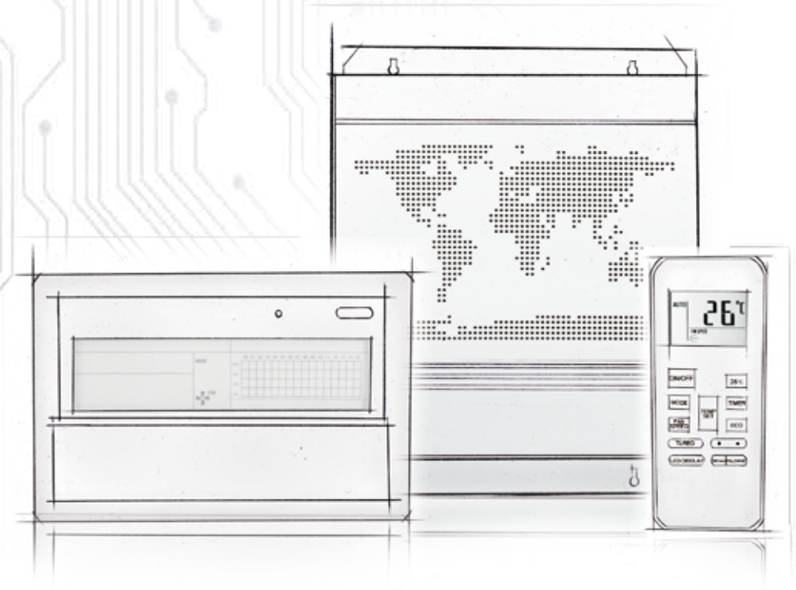
MCAC-2012-17

COMMERCIAL AIR CONDITIONERS

Control Devices & Systems

2012



GD Midea Refrigeration Equipment Co., Ltd.
Have received ISO 9001 certification for quality assurance.
Certificate Registration
NO.01 100 019209

GD Midea Refrigeration Equipment Co., Ltd.
Have received environmental management system
Standard ISO 14001 certification
Certificate NO.CC 1417

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Note: The data in this book may be changed without notice for further improvement on quality and performance.

Corporate Introduction

Midea Group

From its humble beginnings in 1968, Midea has developed into a large corporation, covering HVAC, appliances, lighting, industrial components, logistics, and real estate. Its 40 years of relentless growth has brought its global turnover to $14 billion USD in 2009. Consequently, Midea has created over 150,000 jobs both within China and all over the world. In addition to providing affordable goods to consumers worldwide, Midea is a responsible corporate citizen, and has contributed to several social causes.

Midea believes in creating value through rapid response to market demands, cost-efficient operations and consumer satisfaction. As a result, Midea wields vast production capacities to meet these demands, a fully integrated manufacturing process, and a comprehensive range of affordable, high-quality products to serve its global customers.

Today, Midea is a home appliance leader in China. The company continues to actively globalize its operation by opening plants in Vietnam, Belarus and Egypt. Additionally, Midea has several forthcoming plants in order to offer enhanced products and services closer to the market.

Midea CAC (MCAC)

As a key part of Midea Group, the Midea Central Air Conditioner (CAC) Business Unit is a professional CAC products supplier and commercial products solution expert. Since 1999 Midea central air-conditioner contributes to the commercial product R&D and technology innovation. By cooperating with the international enterprises plus the independent R&D, Midea CAC achieves big success in the commercial air-conditioner market and has established thousands of sample projects all over the world.

Right now Midea CAC is one of the most professional CAC products supplier as well as the professional project solution provider in marketing, sales, project design and after service etc.

MCAC Chongqing factory with 14 product lines concentrates on the water cooled centrifugal / screw/ scroll chillers, Air cooled screw/ scroll chillers, AHU/FCU etc.
MCAC Shunde factory with 31 product lines concentrates on the VRF (DC inverter product/ Digital scroll product), split product, heat pump water heater, AHU/FCU etc.

Midea CONTROLLER

Dedicated to create the most comfortable life for you

Midea CAC designs a series of controllers according to various users' various needs. Our controllers carry on our principle of creating the most comfortable and make the room under the desired and precise temperature. Moreover, our controllers adapt the friendly and explicit operating interface to meet internal users' operation.

Contents

05 **MDV Controller**

27 **Air-cooled Modular Chiller Controller**

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38 **Rooftop Commercial AC Controller**

41 **Air Handling Unit Controller**

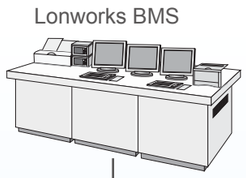
MDV Controller

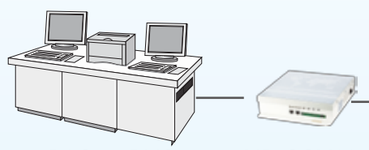
Diversfication and universal controller for DC inverter air conditioners,
including wireless remote controller, wired controller,
weekly timer,
central controller,
and network controller.

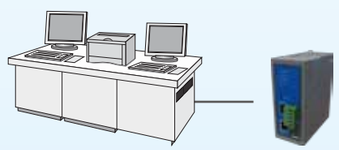
Control Systems

Building Management System

Connectable to various sized BMS/BAS





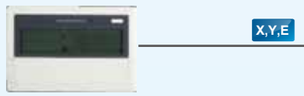


Centralized Control

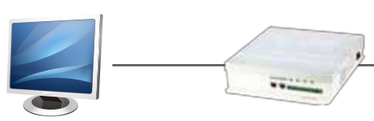
Network Monitoring Controller

Weekly Schedule Centralized Controller

Indoor Centralized Controller



Outdoor Centralized Controller



Individual control

Wire controller

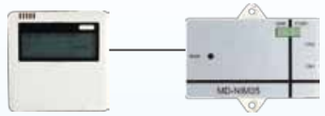
KJR-10B
KJR-12B
KJR-90A

Remote controller

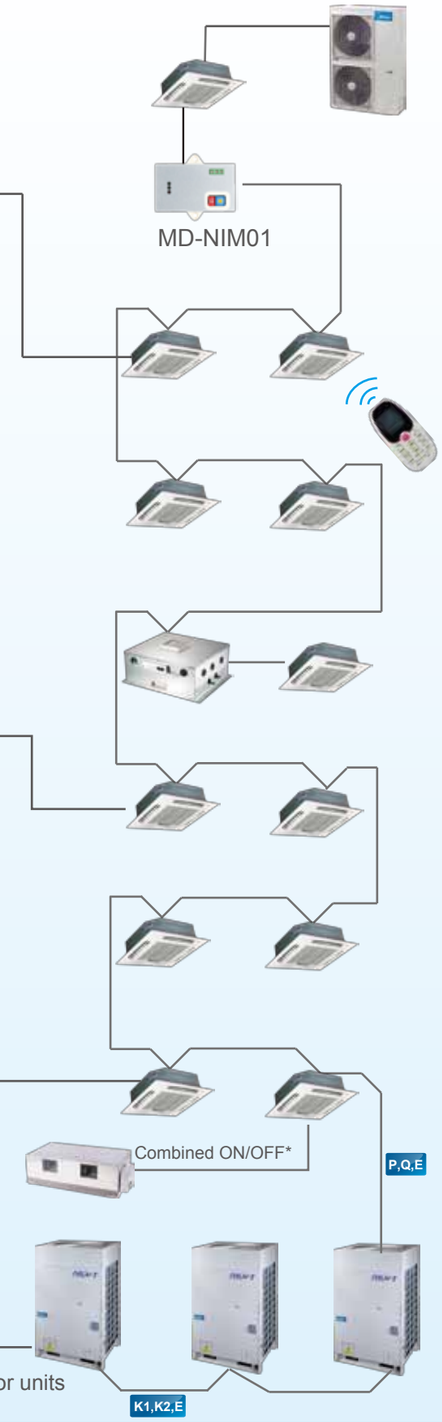
RM02
RM05
R05
R06
R51
R71

Accessories

Card-key Interface



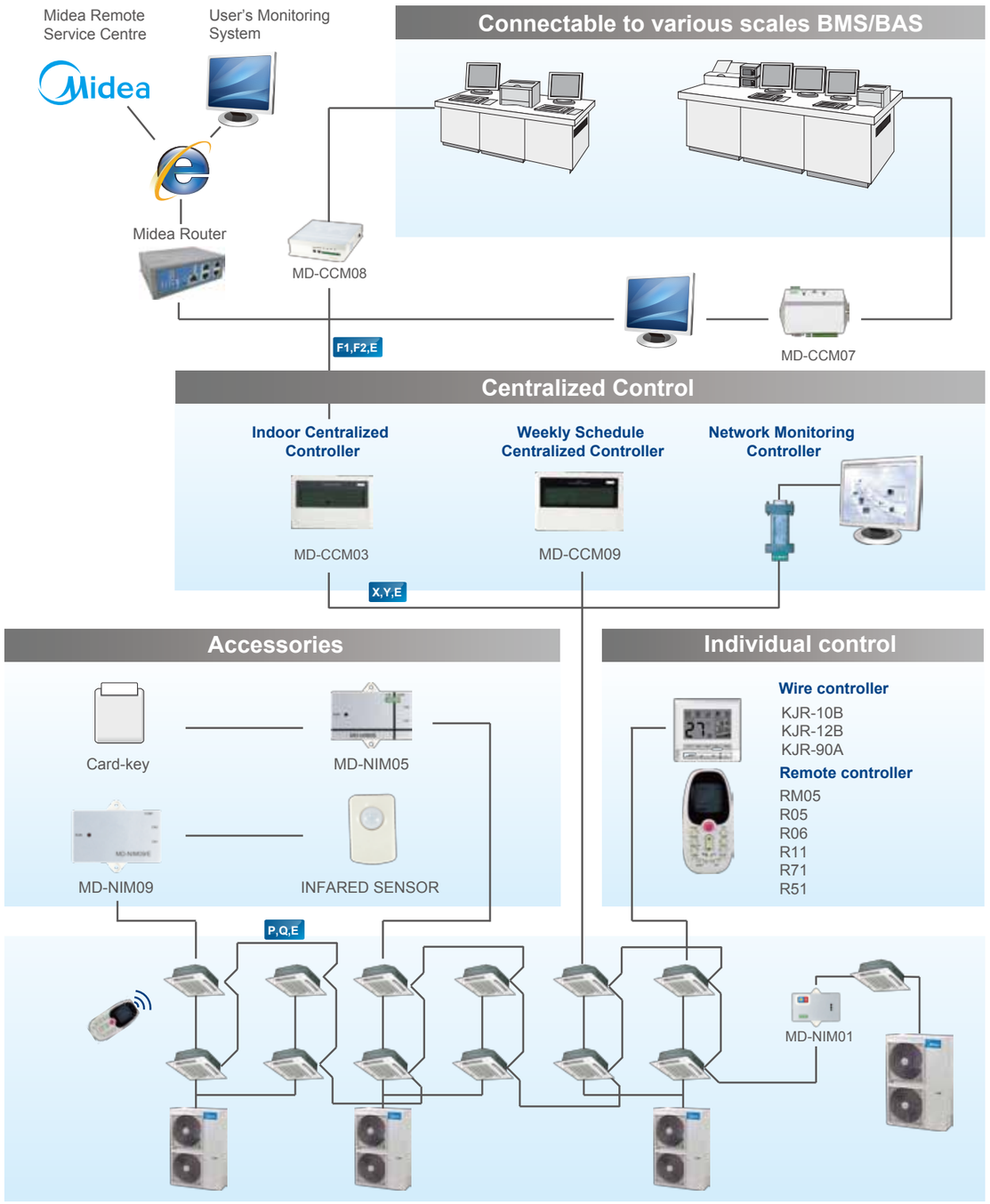
Infared Sensor



Note: The wires in the diagram show the signal flows only, while not represent the actual connecting ways.
*Combined ON/OFF function can be customized from us.

Control System(Mini VRF)

Building Management System



Note: The wires in the diagram show the signal flows only, while not represent the actual connecting ways.

Comparison of Controllers

Item		Remote	Wired Controller	Centralized Controller	3rd-generation Monitoring System
Model name		RM05 R06 R05 R51	KJR-10B KJR-12B KJR-90A	MD-CCM03 MD-CCM09 KJR-90B KJRF-180A	MDV-WLJKXT
MAX. controllable IDU		1	1	16/64	1024
AC control function	On/Off	●	●	●	●
	Operation mode setting	●	○	○	●
	Heating mode	○	○	●	●
	Fan speed setting	●	●	○	●
	Room temp. setting	●	●	○	●
	Vertical swing	●	●	○	●
	Horizontal swing	○	○	—	—
	Economic mode	○	○	—	—
	Group setting	—	—	●	●
	Key lock	○	○	○	—
Display	Backlight	○	○	●	—
	Current time	○	—	○	—
	RC prohibition	—	—	○	●
	Address	—	—	●	●
	Error code	—	—	○	●
Timer	Period	—	—	—/Week	—
	On/Off per day	—	—	—/4	—
	On/Off per week	—	—	—/28	—
	On/Off timer	●	●	○	●
Control	FOLLOW ME	○	○	—	—
	Emergent stop	—	—	○	—
	Emergent start	—	—	○	—
	Address setting	○	—	—	—
	BMS access	—	—	○	●
	Control via internet	—	—	○	●

● : Each of this kind of controller has the corresponding functions.
○ : This function is optional.
— : This function is not available through the corresponding controller.

Wireless Remote Controller

RM02 RM05 R05 R06 R51 R71

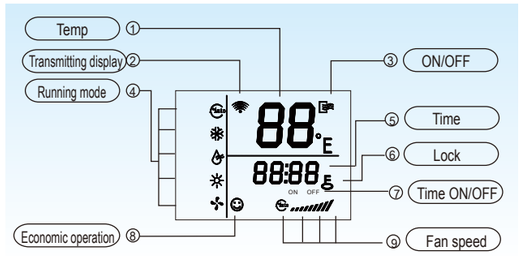
Functions

Portable device

Wireless remote controller is a portable control device. It provides a convenient way for users to control the AC everywhere within a range up to 11m.

Explicit user interface

Users can synchronize the air conditioners' parameters with the display panel of the wireless remote controller. It's the very way to make the room environment precisely work at the user's will.

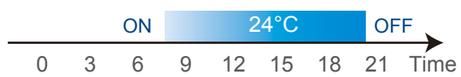


Background light

Background light allows user operate the device in the dark room freely. The device lights whenever the keys are pressed and last during the whole operating procedure.

Built-in timer

Built-in daily timer offers the convenience of automatically starting and turning down the air conditioners according to the set time.



The inddor unit is set to work at automode from 8:00 to 20:00

Address setting

Besides the machine's auto assigning addresses function, users can set the indoor unit's address via the wireless remote controller.

Specifications

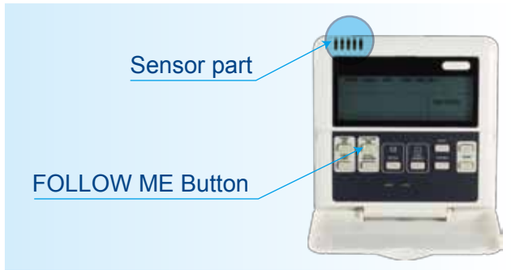
Model	RM02	RM05	R05	R06	R51	R71
Dimensions	150×60×15	150×65×20	150×65×20	100×55×20	140×60×15	125×42×27
Power	1.5V(LR03/AAA)×2					

Wired Controller

KJR-10B KJR-12B KJR-90A

Functions

Follow me



With the FOLLOW ME function, the wired controller can detect the air temperature at the user's altitude instead that of the ceiling or the floor. This helps making the room environment comfortable and the temperature accurate.

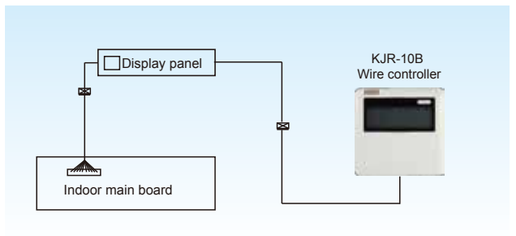
Built-in timer

Built-in daily timer offers the convenience of automatically starting and turning down the air conditioners according to the set time.

The inddor unit is set to work at automode from 8:00 to 20:00

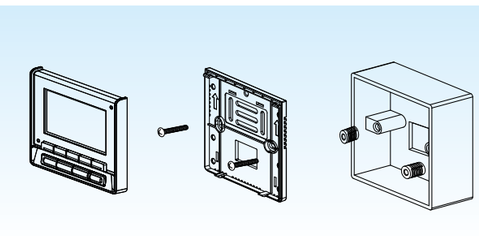
Easy connection

Wired controller conveniently connects to the indoor unit's display panel with the appropriative connecting wire.



Easy installation

The wired controller allows to be installed into the wall by fixing the bottom directly or fixing the device to a mounting cabinet.



Specifications

Model	10B	12B	90A
Dimensions	120×120×15	120×120×15	90×86×13
Power	Power from the display panel. Extra power is unnecessary.		

Centralized Controller

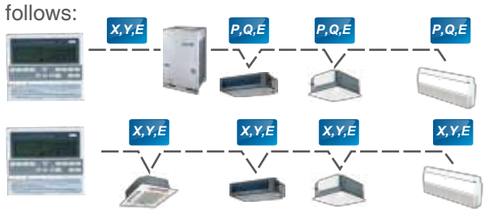
INDOOR CENTRALIZED CONTROLLER

MD-CCM03

Functions

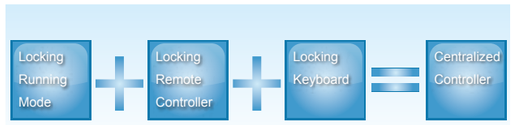
Centralized control

MD-CCM03 is a multifunctional device which is able to control up to 64 indoor units. And the connection length can be up to 1,200m. With the newly designed machines, this device connects to the master outdoor unit, making the centralized wiring quite simple.The 2 ways of connecting is as follows:



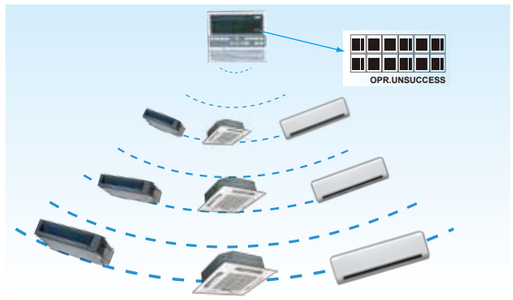
Three lock modes

Centralized controller MD-CCM03 provides a superior way to manage the indoor units. Users are able to make their own choice from locking the wireless controller, locking the running mode or lock the MD-CCM03's keyboard, as they wish.



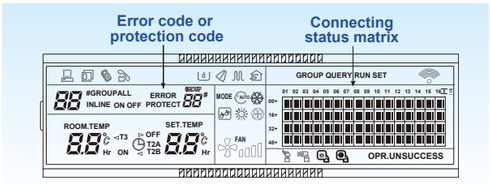
Single/unified control mode

The control object can be either single or all, making the controlling operation convenient and easy. With the operation signal feedback, users ensure their machines work at the precise working mode.



Indoor unit working status display

MD-CCM03 displays both the indoor units working status and the error codes. Via checking the error codes table in the user manual, users can easily find out the malfunction and call the repairman.



Access to network monitoring

MD-CCM03 is able to bridge up to 64 indoor units to the network monitoring system and the building management system.

Specifications

Model	MD-CCM03
Dimensions(H×W×D)(mm)	170×110×70
Power	198-242V(50/60Hz)

Centralized Controller

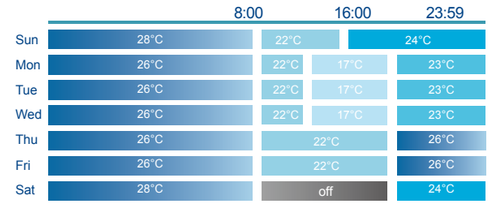
WEEKLY SCHEDULE CENTRALIZED CONTROLLER

MD-CCM09

Functions

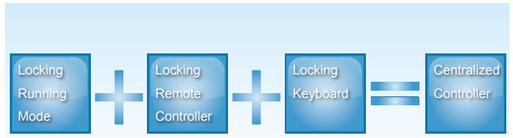
Weekly schedule

MD-CCM09 allows up to 64 indoor units making the weekly schedule. Users can set up to 4 periods per day and select the desired running mode and room temperature. The operating object could be any indoor unit or all the indoor units.



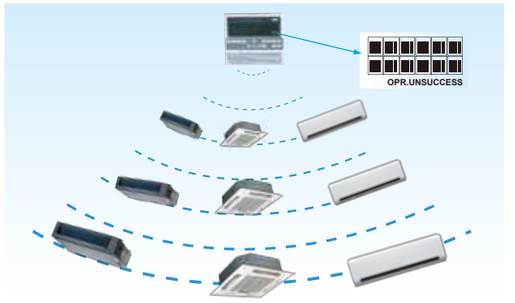
Three lock modes

Centralized controller MD-CCM03 provides a superior way to manage the indoor units. Users are able to make their own choice from locking the wireless controller, locking the running mode or lock the MD-CCM03's keyboard, as they wish.



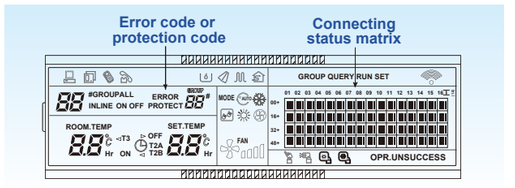
Single/unified control mode

The control object can be either single or all, making the controlling operation convenient and easy. With the operation signal feedback, users ensure their machines work at the precise working mode.



Indoor unit working status display

MD-CCM03 displays both the indoor units working status and the error codes. Via checking the error codes table in the user manual, users can easily find out the malfunction and call the repairman.



Specifications

Model	MD-NIM09
Dimensions(H×W×D)(mm)	170×110×70
Power	198-242V(50/60Hz)

Centralized Controller

WIRED CONTROLLER

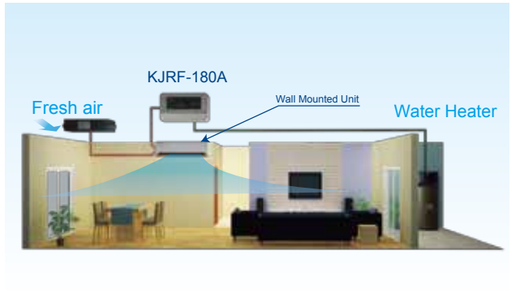
KJRF-180A

Newly designed centralized controller controls up to 16 indoor units and 1 heat pump water heater in addition.

Functions

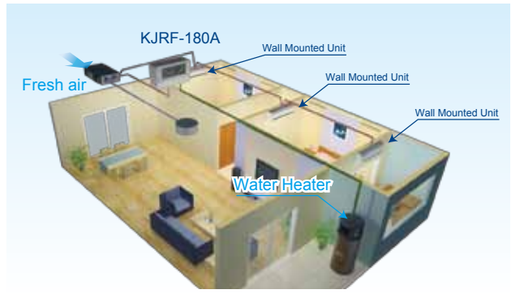
Multiple machine control

KJRF-180A is a multiple functions device, which can control both indoor air conditioners and heat pump water heater. Moreover, KJRF-180A is able to connect to the fresh air unit and realize the operation.



Single/unified control

KJRF-180A provides an easy way to control the indoor unit and water heater. User can quickly choose the water heater or the fresh air unit to adjust their running modes.

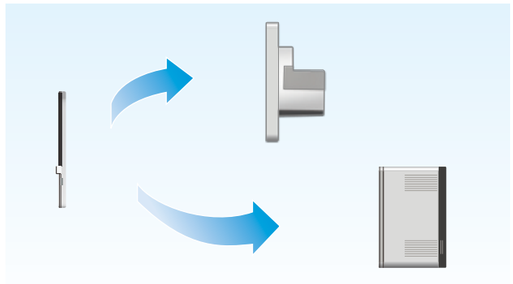


Graceful design

KJRF-180A is designed with graceful appearance, especially suitable for the high class environment. The key lock function helps avoiding unnecessary operation by mistake.

Easy installation

KJRF-180A offers two different appearances to mostly suit the installation. Both of them are easy to operate.



Specifications

Model	KJRF-180A
Dimensions(H×W×D)(mm)	180×122×69
Power	220V(50/60Hz)

Centralized Controller

UNIFIED ON/OFF CONTROLLER

KJR-90B

Unified controller designed with graceful appearance and explicit panel.

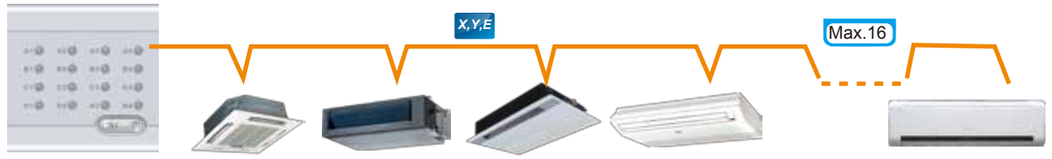
Functions

Unified control

KJR-90B only offers the on/off and heating/cooling choice for the indoor unit. And the running temperature is set to be comfortable previously. By this way, the indoor environment is quite convenient to manage.

Centralized control

KJR-90B centralized control up to 16 indoor units.



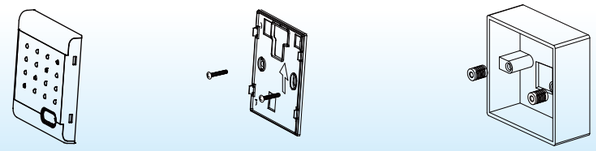
Light indicator

The lights of the KJR-90B indicate the indoor unit's running mode. This helps discovering the abnormal indoor unit. After the operations, the lights will fade to save energy and avoid disturbance. The indications are as follows:

Light	Blue	Red	Flash
Single On/Off key	Cooling/Fan	Heating	IDU Error
Unified On/Off key			EEPROM Error

Easy installation

KJR-90B can be easily mounted on the built-in cabinet:



Specifications

Model	KJR-90B
Dimensions(H×W×D)(mm)	90×86×8
Power	Powered from display panel. Extra power unnecessary.

Central Control Software

3RD GENERATION MONITORING SYSTEM

Functions

Friendly user interface

3rd generation monitoring system offers a simple and explicit user interface to allow realize its functions simply.3rd generations monitoring system is able to control up 1024 indoor units and 512 outdoor units.

Group definition 3rd

The structure of the building
The layout drawing of the floor makes it easy to select the desired unit.
Click the unit to operate

Multiple functions

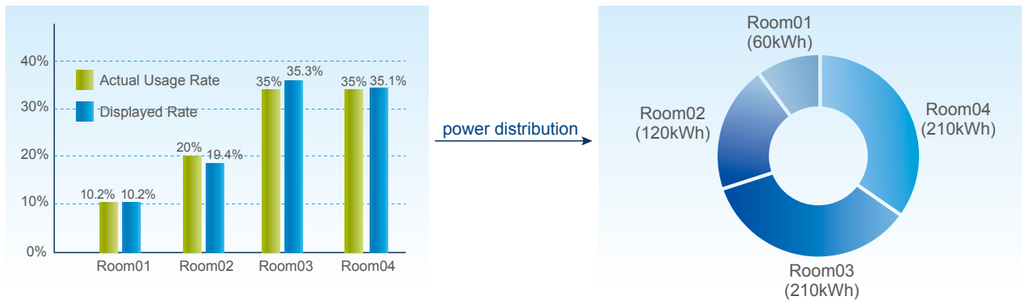
3rd generation system is able to realize the remote control of indoor units. The command of indoor unit can be both the normal ones, such as changing the running modes, adjusting the temp., timer functions, and the higher class command, such as excluding the other controllers to realize unique PC control.

Running parameter display

3rd generation system can synchronize both the indoor and outdoor units' running status and parameters, to realize the visual control of the refrigerant system. Moreover, the 3rd generation system records the running status and error information of the refrigerant system, which helps the maintenance accurate and easy.

Electricity charge apportionment

With the appropriate devices, 3rd generation system can record the total electricity consumption and the on/off time of the outdoor units. And with the indoor units' actual cooling power, the software intelligently distributes the power consumption to each indoor unit. Moreover, the software can generate the electricity charge bills and the bill of the indoor units' on/off time, which is a basis of the power consumption.



The principle of the electricity distribution

Room 01 electric power consumption
Demand capacity of Room01
Total demand capacity of indoor units
Total power consumption

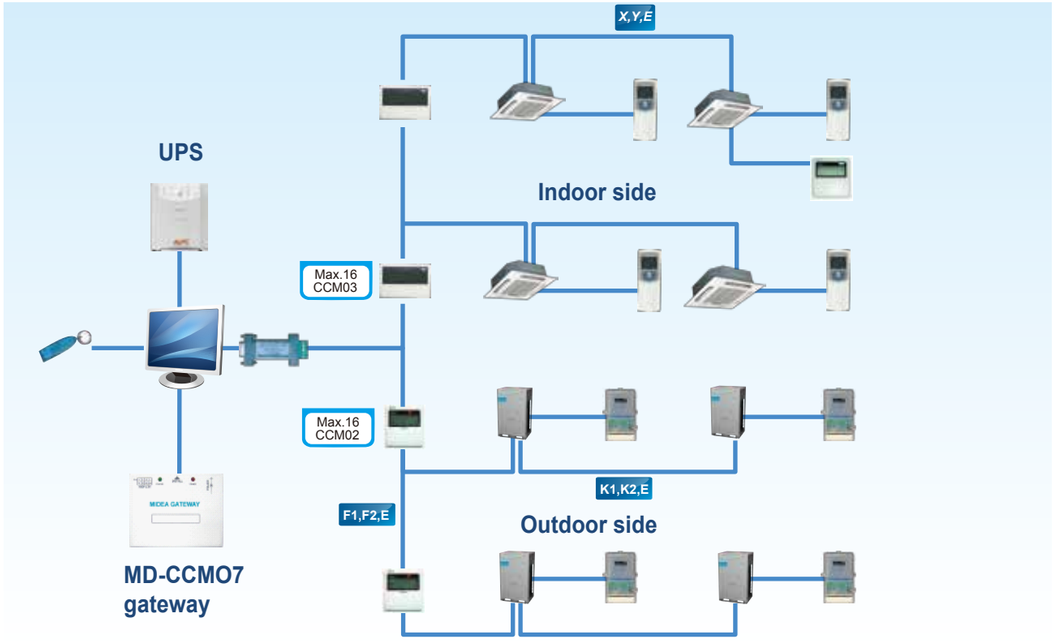
Accessories

LONWORKS® BMS GATEWAY

MD-CCM07

Cooperate with the 3rd generation monitoring software.
Enables centralized control of up to 1024 indoor units and 512 outdoor units to the LonWorks BMS.
Easily connects to the BMS system.
Ideal for scattered units of large projects, such as high office buildings, etc.

Network example



UPS is recommended only, not necessary.

■ Recommended config

Operating system	WIN2000/WIN XP SP4
CPU	Pentium 4 2G or above
HDD	40G free space
Interface port	2 RS-232 terminals and 3 USB ports
Software	3rd generation monitoring software kit
Database	Microsoft SQL Sever 2000 personal edition
Electricity meter	Chint DTS634 or corresponding model

■ Packing list

Packing list	MD-CCM07 and power converter

PC should be field supplied.
3-core shield twisted pair lines should be applied to the network.

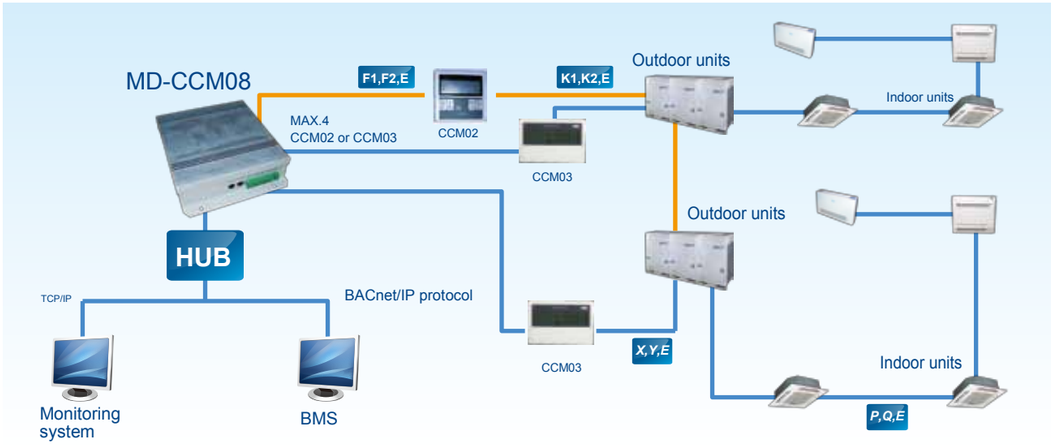
Accessories

BACNET® BMS GATEWAY

MD-CCM08

Contains 4 groups of RS-485 communication ports and be able to connect up to 256 indoor units or 128 outdoor units to the BMS.
Be free to connect to the BMS or not.
Be compatible with 3rd generation monitoring software Firebird.
Monitor machines via local network.

Network example



Monitoring units via local web

MD-CCM08 allows users explore the units via local network, simply using the Internet Explorer. Moreover, users can not only check the units running conditions, but also change the running parameter of the units, which is quite convenient for users to control.

Wide compatibility

■ CCM08 has a wonderful adaptability to the BMS.

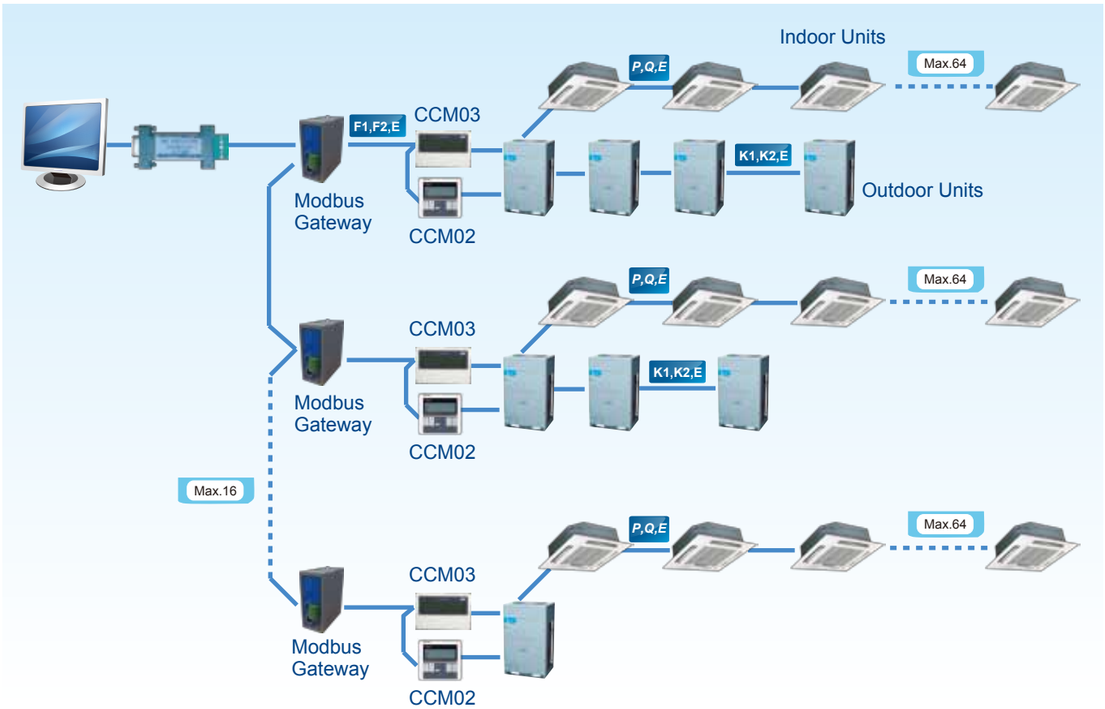
	Company	BMS software	Brand
1	SIMENS	APOGEE	APOGEE
2	TRANE	Tracer Summit	TRACER SUMMIT
3	Honeywell	Alerton	ALERTON
4	Schneider	Andover	AndoverControls
5	Johnson	METASYS	METASYS

Accessories

MODBUS BMS GATEWAY

Support the Modbus protocol network
Bridge the Midea central AC system to the BMS
Compose a Modbus network of up to 1024 indoor units and 64 outdoor units
Transfer the information via the RTU mode
Wide voltage 12-48VDC adaptable

Electrical wiring



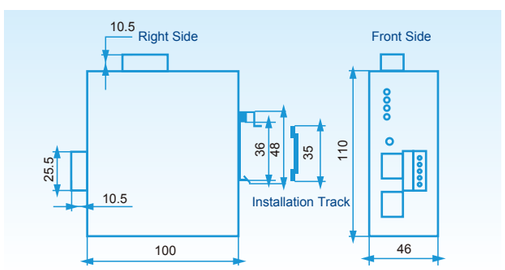
One Modbus gateway can bridge one refrigerant system to the PC or the Modbus master.

Config AC System via Web

Once the Modbus network is set, users can conveniently config their AC network system via the web by the common tools, such as IE, or other TCP/IP explorers.

Dimensions

The Modbus Gateway is designed with a small size. It's equipped a installation track for the easy installation at the project site.

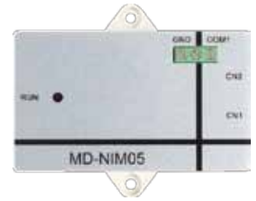


Accessories

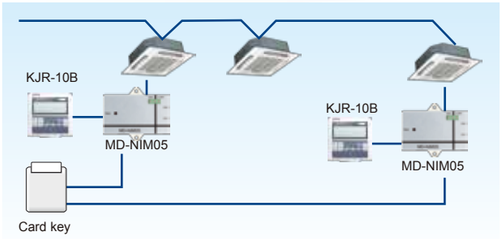
HOTEL CARD KEY INTERFACE MODULE

MD-NIM05

Cooperate with the wired controller to realized humanistic automatic control.
High voltage power is unnecessary, making the device safe and steady.
Auto-restart function inside.

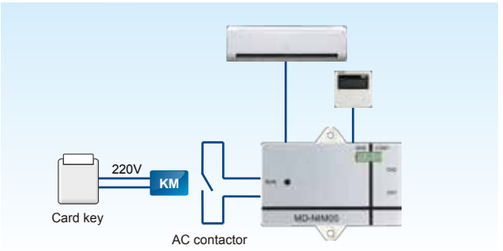


Installation example



Wired controller is necessary in this card-key system.

Electrical wiring



■ Specifications

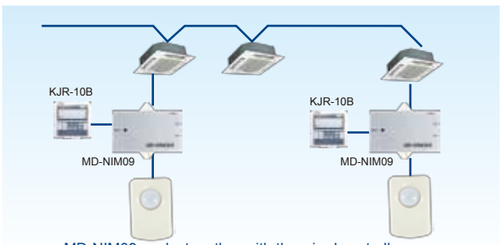
Model	MD-NIM05
Dimensions(H×W×D)(mm)	86×72.8×15.5
Power	Powered from display panel. Extra power unnecessary.

INFRARED SENSOR CONTROLLER

MD-NIM09

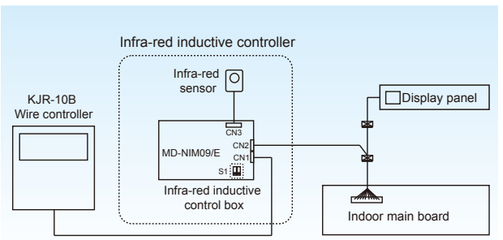
Automatically adjust the room environment.
Automatically extend the shutting down time, avoiding frequent ON/OFF.
Graceful appearance accommodates itself to the different buildings.

Installation example



MD-NIM09 works together with the wired controller.

Electrical wiring



■ Specifications

Model	MD-NIM09
Dimensions(H×W×D)(mm)	Senor part: 46×30×25.6, Control box: 86×72.8×15.5
Power	Powered from display panel. Extra power unnecessary.

Accessories

3-PHASE PROTECTOR

Detect the power condition and make the corresponding protecting action.
Protect the compressor from being damaged.
Automatically distinguish the power supply's abnormal type and automatically recover.

Excellent reliability

The protector protects the entire system from power supply problems, Moreover, the protector can automatically recover from switching off status.

Specifications

Power forms	380V-3N~50/60Hz		20V-3N~60Hz
Model	APR-4V M2	HWUA	DPA51CM44
Temp. range	-10°C to 50°C	20°C to 50°C	-20°C to 50°C
Rated operational power	5.7VA	2.9VA	13VA
Protections	Phase reverse, dynamic/static phase loss, over/under voltage, phase imbalance, fail-safe		
Dimensions(H×W×D)(mm)	59×40×72.4	Customized	81×17.5×67.2

DIGITAL POWER METER

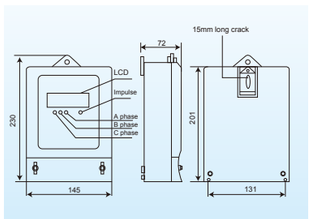
DTS634/DTS636

Calculate the power consumption.
Do not need adjustment after working for long periods.
One outdoor unit corresponds one digital power meter.

Low power consumption

The digital power meter works at low consumption. The working power is as follows:
Voltage circuit: less than 2W/10VA
Current circuit: less than 2.5VA

Indications and installation



The digital power meter is checked to be up to standard after it is manufactured, so it's able to work at once on the project site. The lights indications and the installation are as the left.

Specifications

Model	DTS634/DTS636
Dimensions(H×W×D)(mm)	230×145×72
Power	380V 3N~50Hz, 380V 3N~60Hz, 220V 3N~60Hz

Accessories

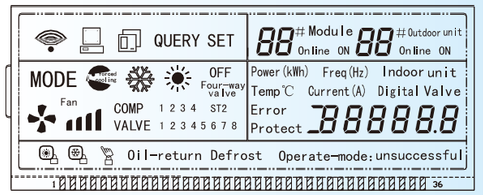
ODU CENTRALIZED CONTROLLER

MD-CCM02

Functions

ODU parameters display

With the MD-CCM02 users are convenient to check the outdoor unit's various kinds of working status, including the frequency, temperature, current, pressure, protect codes and error codes, etc.



Graph 2 LCD Screen

Access to network monitoring

MD-CCM02 is able to bridge up to 32 outdoor units to the network monitoring system and the building management system.

Specifications

Model	MD-CCM02
Dimensions(H×W×D)(mm)	120×120×15
Power	198-242V(50/60Hz)

REMOTE ALARM CONTROLLER

KJR-32B

Functions

Simple design

KJR-32B is specially designed for feed projects' practical need. It displays no ODU's working parameter, but is able to connect to the alarm device when ODU is working abnormally. At the same time, the RUN light flashes.

Access to network monitoring

MD-CCM03 is able to bridge up to 64 indoor units to the network monitoring system and the building management system.

Specifications

Model	KJR-32B
Dimensions(H×W×D)(mm)	150×85×70
Power	198-242V(50/60Hz)

Accessories

HRV WIRED CONTROLLER

KJR-27B

Functions

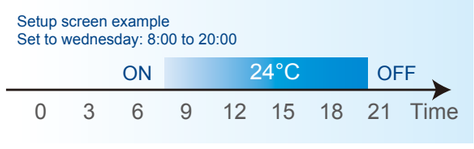
HRV controller

Midea KJR-27B is individually designed for the HRV—Heat Recovery Ventilator, to fulfill the HRV working mode. The HRV is able to work at the exhausting mode, air supply mode, by pass mode, heat exchanging mode, auto mode.

AUTO->HEAT EXCHANGING->
EXHAUSTING->BY PASS->AIR SUPPLY

Built-in timer

Built-in daily timer offers the convenience of automatically starting and turning down the modular chillers according to the set time.



Specifications

Model	KJR-27B
Dimensions(H×W×D)(mm)	120×120×15
Power	198-242V(50/60Hz)

MODE LOCKING CONTROLLER

KJR-31B

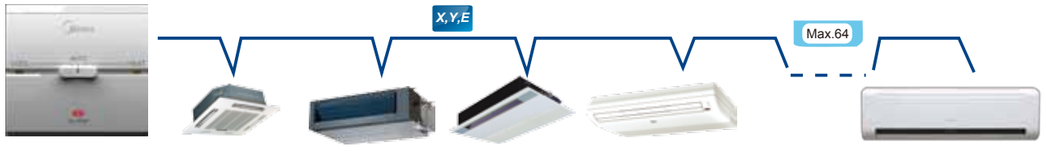
Functions

Running mode locking

KJR-31B is used for management of the indoor units to lock their running mode. This is the very device to avoid misusing and running mode conflict.

Multiple device control

KJR-31B is a device which can lock up to 64 indoor units' running status.



Specifications

Model	KJR-31B
Dimensions(H×W×D)(mm)	120×120×15
Power	198-242V(50/60Hz)

Accessories

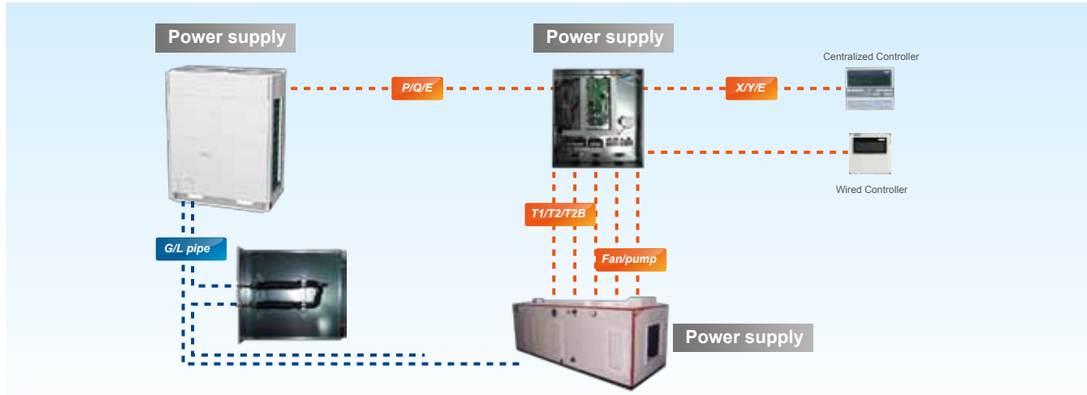
CONTROL BOX

CE-AHUKZ-01/CE-AHUKZ-02

V4+ functions inside.
Match the new outdoor units.

Introductions

CE-AHUKZ-01/CE-AHUKZ-02 is an independent control box that can convert a machine to V4+ type like machine and execute theV4+ functions. The wiring of the control box is as follows:



Specifications

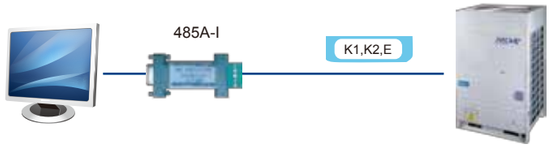
Model	CE-AHUKZ-01/CE-AHUKZ-02
Dimensions(H×W×D)(mm)	485×395×205
Power	198V-220V(50/60Hz)

Midea OUTDOOR UNIT DIAGNOSIS SOFTWARE MCAC-DIAG/E

Display the outdoor units' real-time running conditions.
Make the running status charts automatically.
Support the V3, V4, V4+, D3, D4 outdoor units.

Wiring diagram

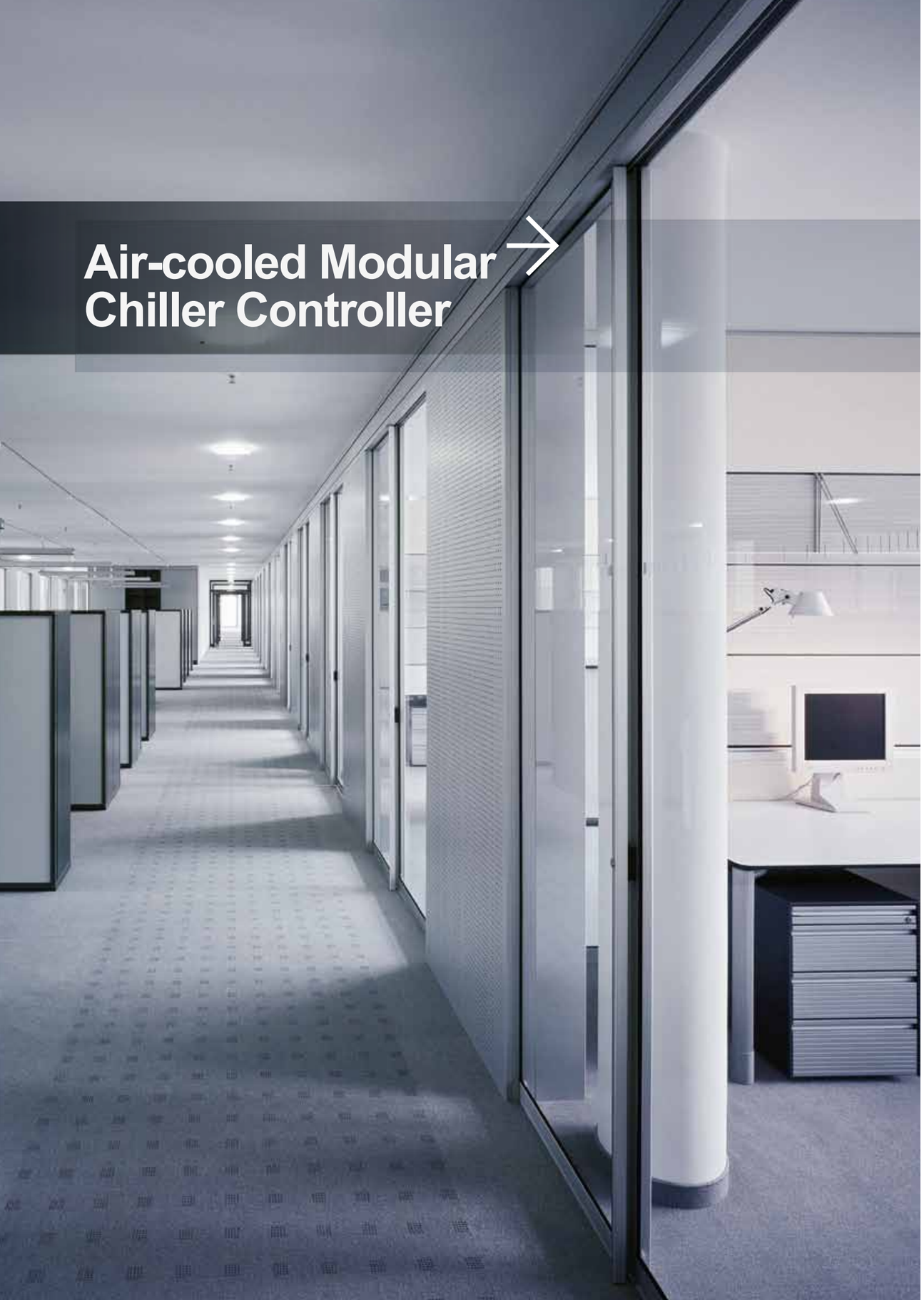
The diagnosis software takes advantage of the K1, K2, E of the outdoor units. The wiring diagram is simple and explicit.



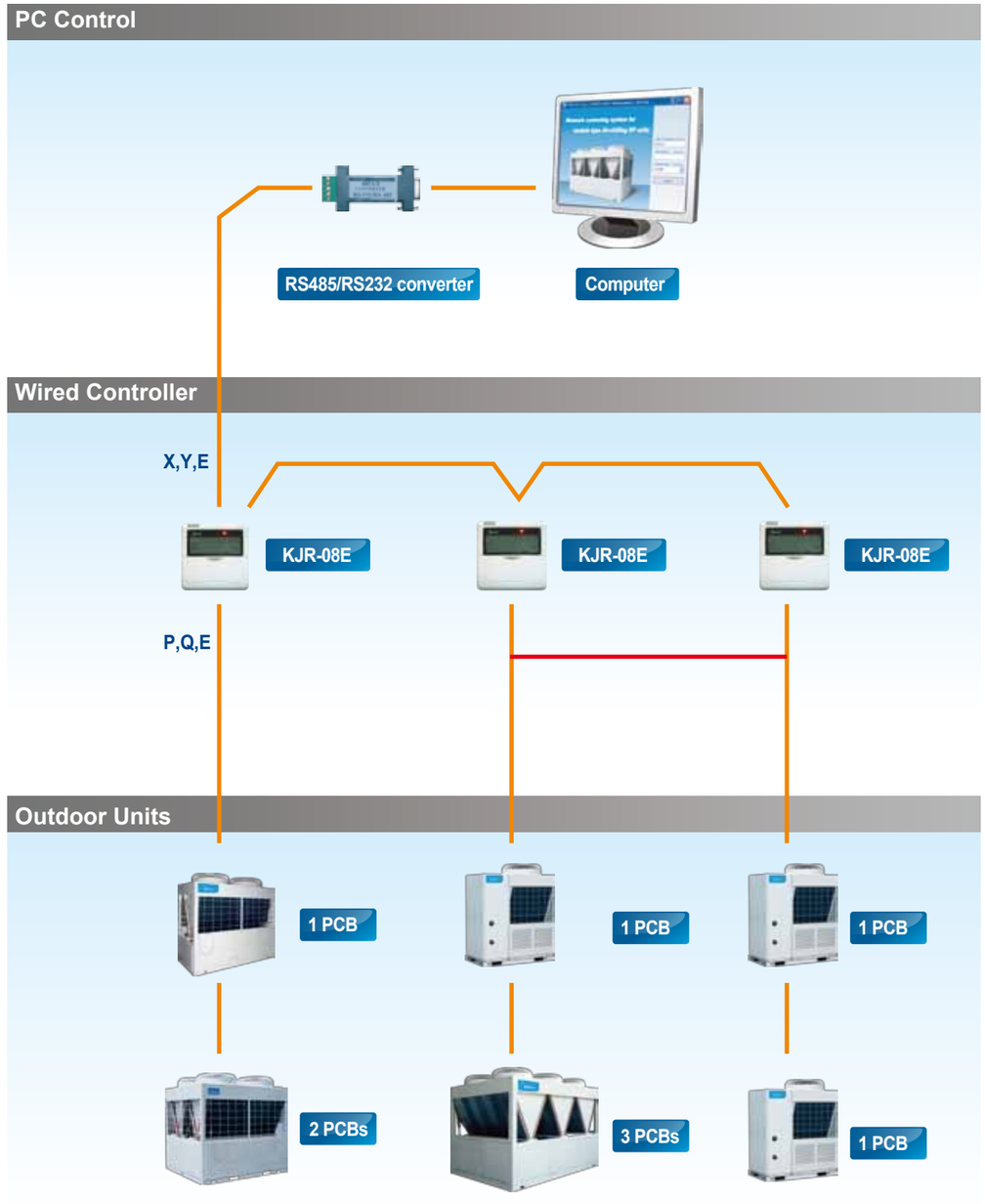
Recommended config

	WIN XP SP4/WIN 7
CPU	Pentium 4 2G or above
HDD	30G free space
Interface port	RS-232 terminal

Air-cooled Modular Chiller Controller



Air-cooled Modular Chiller Controller



*The red line function stands for the parallel connection. This function can be customized for users.

Wire controller

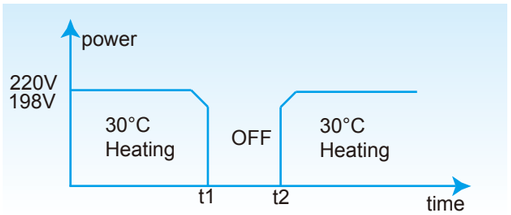
AIR-COOLED MODULAR CHILLER CONTROLLER

KJR-08B/BE
KJR-08B/BE(C)

Functions

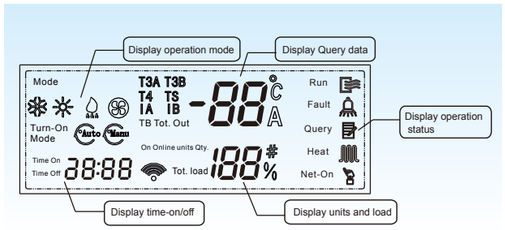
Auto-restart

The controller automatically records the running status before the power is off. When the power recovers, the modular chiller could work at the former mode and status. This helps the modular chiller work automatically no matter whether the power fails or not. The modular chiller does not have the auto-restart function.



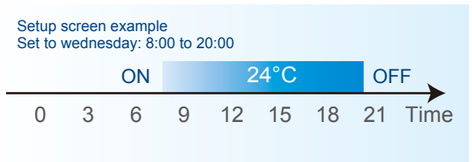
Running status display

The controller shows the running status of the modular chiller on the display panel, which includes temperatures, currents, protections and error codes, making the maintenance convenient and explicit.



Built-in timer

Built-in daily timer offers the convenience of automatically starting and turning down the modular chillers according to the set time.



Access to network monitoring

MD-CCM03 is able to bridge up to 64 indoor units to the network monitoring system and the building management system.

Specifications

Model	KJR-08B/BE or KJR-08B/BE(C)
Dimensions(H×W×D)(mm)	120×120×70
Power	198-242V(50/60Hz)

Wire controller

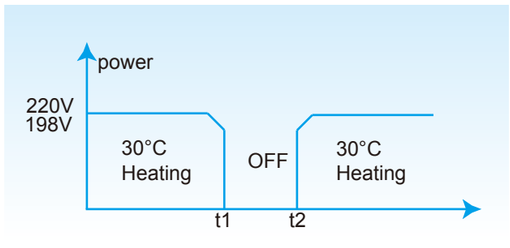
AIR-COOLED MODULAR CHILLER CONTROLLER

KJR-120A

Functions

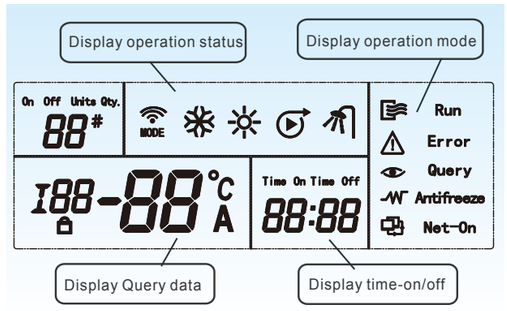
Auto-restart

The controller automatically records the running status before the power is off. When the power recovers, the modular chiller could work at the former mode and status. This helps the modular chiller work automatically no matter whether the power fails or not.



Running status display

The controller shows the running status of the modular chiller on the display panel, which includes temperatures, currents, protections and error codes, making the maintenance convenient and explicit.



Hysteresis TEMP.SET

KJR-120A is able to set the hysteresis temperature ð to various value. This function helps the users set the temperature of the water precisely. The value of ð can be 2,3,4,5°C.

Access to network monitoring

MD-CCM03 is able to bridge up to 64 indoor units to the network monitoring system and the building management system.

Specifications

Model	KJR-120A
Dimensions(H×W×D)(mm)	120×120×70
Power	198-242V(50/60Hz)

Accessories

MONITORING SYSTEM

3-generation network control software

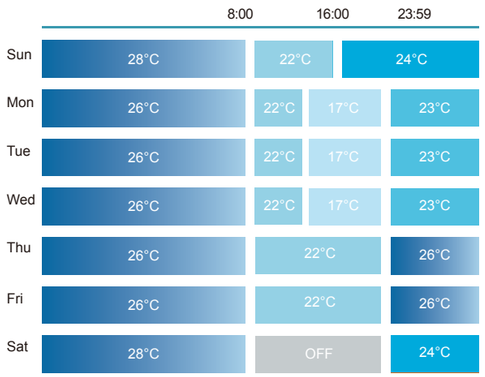
Functions

Remote monitoring

Monitoring system provides the convenience of maintaining the air-cooled modular chiller on the PC instead of on site.

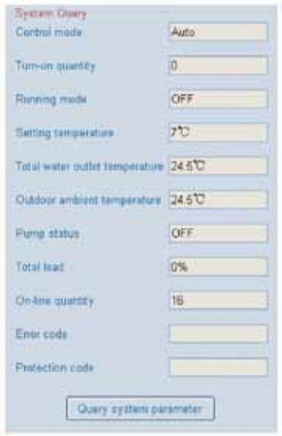
Weekly schedule

Air-cooled modular chiller monitoring system provides the function of making the weekly schedule. Users can set up to 2 periods per day and select the desired running mode and temperature.



Multiple parameters display

Air-cooled modular chiller monitoring system shows the very details of the chillers' running status, which includes temperatures, currents, protections and error codes, making the maintenance convenient and explicit.

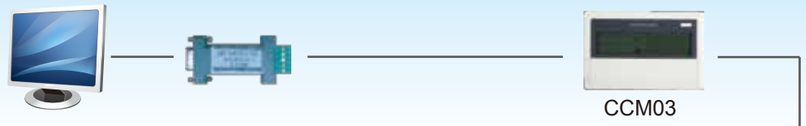


Recommended config

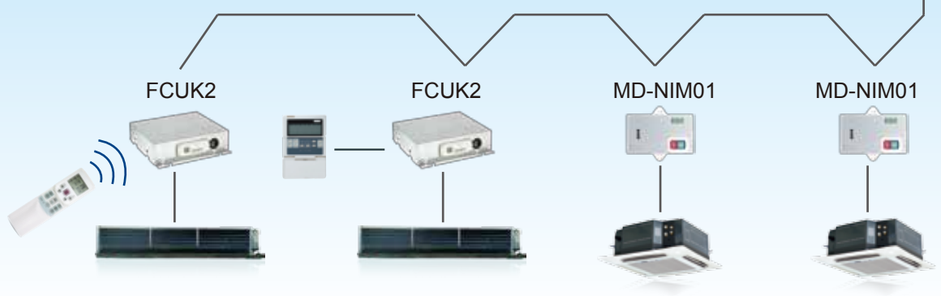
Operating system	WIN2000/WIN XP SP4
CPU	Pentium 4 2G or above
HDD	40G free space
Interface port	RS-232 COM port
Software	3rd generation monitoring software kit
Database	Firebird®

Fan Coil Controller

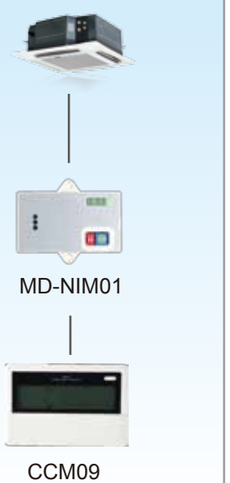
Centralized control



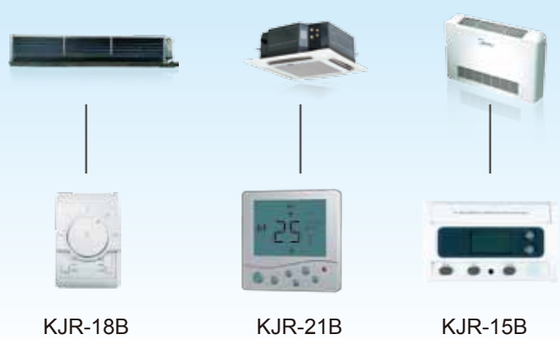
Indoor unit



Weekly schedule control



Individual control



Wire controller

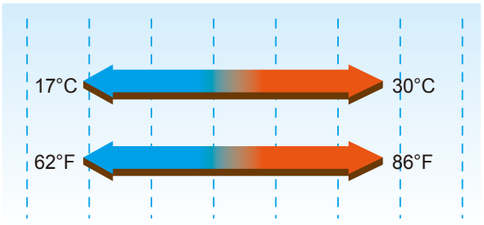
TWO-PIPE WIRE CONTROLLER

KJR-15B

Functions

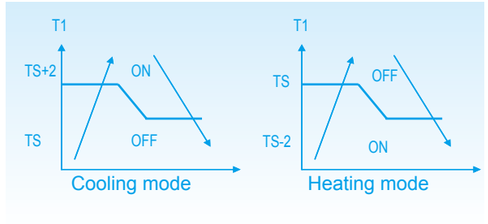
Celsius and Fahrenheit display

KJR-15B is able to show the Celsius and Fahrenheit temperature to fit all kinds of users. Press the UP and DOWN keys together for 5 seconds to change the display mode.



Precise temperature control

Be considerate about the energy saving and avoiding frequent ON/OFF, the controller accepts a temperature tolerance of 2℃ difference between the setting temperature and the room temperature.



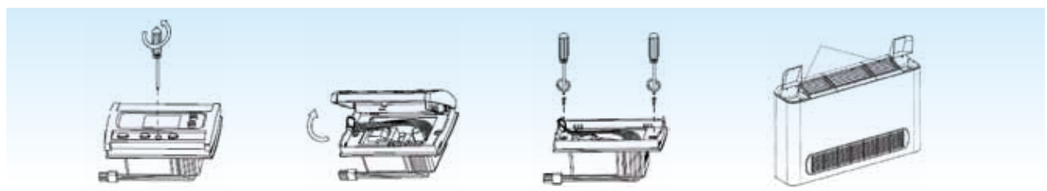
T1:Indoor temperature TS:Setting temperature

Auto temperature sensing recover

When the room temperature sensor's voltage is out of the range of 0.05-4.95V, the controller stops the fan and shows E1, which indicates the corresponding error. When the temperature senor work normally again, the indoor unit return to its original working status.

Easy installation

KJR-15B is a small size controller and offers an easy way to install in to the exposed floor-standing unit. The installation is as follows.



Specifications

Model	KJR-15B
Dimensions(H×W×D)(mm)	130×70×30
Power	220-230VAC(50/60Hz)

Wire controller

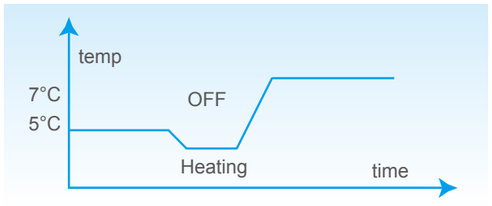
TWO-PIPE WIRE CONTROLLER

KJR-21B

Functions

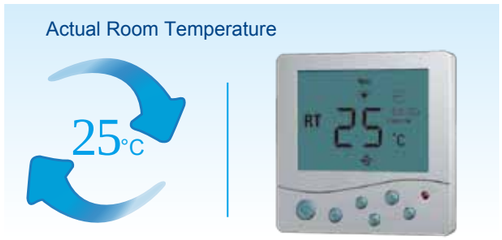
Low temperature protection

When the low temperature protection is valid and the machine is off, When the room temperature is lower than 5°C, thermostat will run in heating mode automatically, when the temperature reaches 7°C，thermostat will be off。



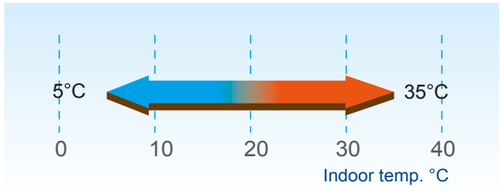
Temperature calibration

Users are able to adjust the temperature display on the controller when the room temperature is much different from the real room temperature. This helps compensate the temperature difference between the controller and the indoor unit and makes the temperature control precise..



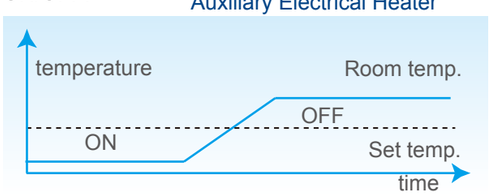
Wide temperature range

The temperature adjustment ranges from 5℃ to 35℃, which helps making a more compatible environment for users.



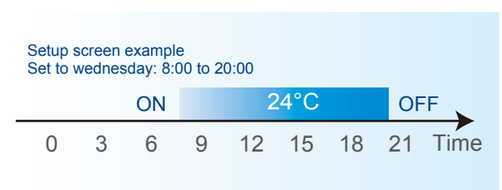
Auxiliary electric heating

In heating mode, KJR-21B automatically turn on or turn off the auxiliary electric heating device to warm the room environment. The control is as follows, to save energy and avoid frequent ON/OFF:



Built-in timer

Built-in daily timer offers the convenience of automatically starting and turning down the air conditioners according to the set time.



Specifications

Model	KJR-21B
Dimensions(H×W×D)(mm)	80×80×40
Power	198-242V(50/60Hz)

Wire controller

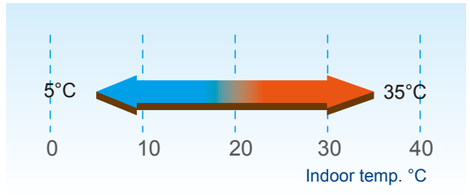
TWO-PIPE/FOUR-PIPE WIRE CONTROLLER

KJR-18B

Functions

Wide temperature range

The temperature adjustment ranges from 5°C to 35°C, which helps making a more compatible environment for users.



Simple operation

KJR-18B controller offers a simple and explicit operating interface to the users.

Four type of controllers

KJR-18B is a thermostat that has developed into 4 types. Each type has its own features to suit different environment.

Model	KJR-18B/E-A	KJR-18B/E-B	KJR-18B/E-C	KJR-18B/E-D
For 2 pipe unit	●	●	●	–
For 4 pipe unit	–	–	–	●
Fan is on when T1=Ts	–	–	●	●
Valve is on when T1=Ts	●	–	–	–

Easy installation

KJR-18B controller is very easy to install into the wall, the steps are as follows:

Specifications

Model	KJR-18B
Dimensions(H×W×D)(mm)	130×80×30
Power	198-242VAC(50/60Hz)

Accessories

FCU CONTROL BOX

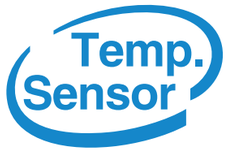
CE-FCUKZ-01/CE-FCUKZ-02

Make the FCU compatible with the MDV controller.

Functions

Temp. sensor inside

To get the accurate temperature information of the project site, the FCUKZ control box is integrated with the temp. sensor of room temperature T1 and the evaporator intermediate temp. sensor T2.



Network address inside

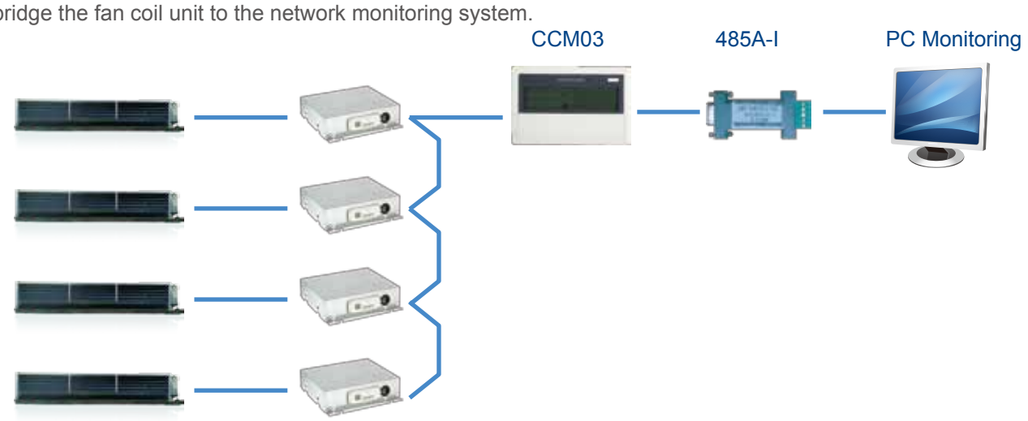
The FCUKZ control box is integrated with the MD-NIM01 to achieve a network address. With the network address, the FCU can be controlled by the centralized controller MD-CCM03 or the PC monitoring system.

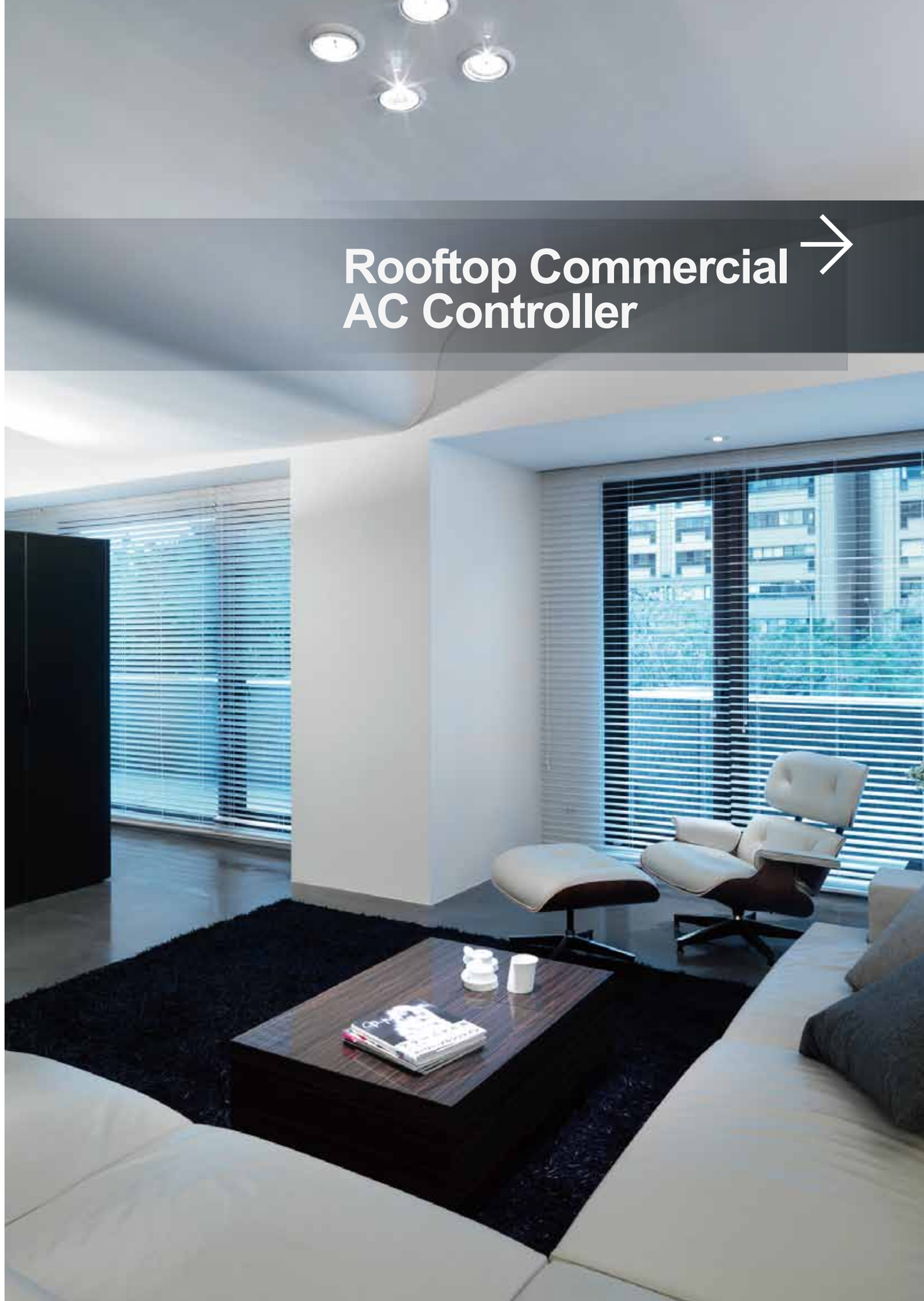
RC receiving

The FCUKZ control box has a infrared receiving panel, which helps receiving the signals from the wireless controller.

Access to network monitoring

With the FCU control box the fan coil unit can be connected to the centralized controller MD-CCM03, which bridge the fan coil unit to the network monitoring system.





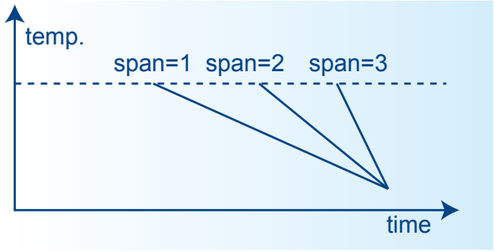
Wire controller

ROOFTOP AC WIRED CONTROLLER

KJR-23B

Functions

SPAN setting



Your thermostat is set at the factory to cycle at 2°F (1°C) above and below the set temperature. The span equates 2. This setting has been designed to provide a comfortable room temperature under most all conditions. However, the span can be adjusted to modify the cycle time.

Filter monitor

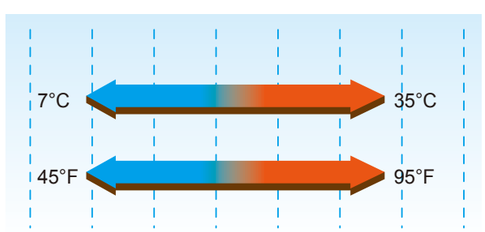
The thermostat counts the hours your system's filter has been in use. To maximize the system's performance and energy efficiency, the filter should be clean or change regularly. When the total system running time for heating and cooling reaches 400 hours, the filter indicator flashes as a reminder.

Compressor protection

KJR-23B designers consider the damage to the compressor because of the frequent ON/OFF. So when the working conditions are true, the compressor starts working in 4 minutes.

Auto cut off

The thermostat will automatically cut off in heat mode if the room temperature rises above 95℉ (35℃). It will cut off in cool mode if the room temperature drops below 45℉ (7℃).



Specifications

Model	KJR-23B
Dimensions(H×W×D)(mm)	110×80×30
Power	1.5V(AA)×2 & 24VAC

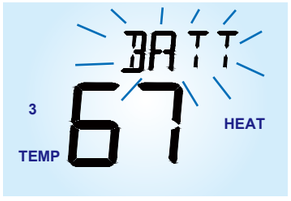
Wire controller

ROOFTOP AC WIRED CONTROLLER

KJR-25B

Functions

Humanistic remind



KJR-25B offers various kinds of reminding to keep the ventilating system working efficiently and safely. The controller will not only remind the user of cleaning the filter termly, but also reminds whenever the system fails to work normally for the sake of low battery.

Celsius and Fahrenheit display

KJR-25B is able to show the Celsius and Fahrenheit temperature to fit all kinds of users. Press the UP and DOWN keys together for 5 seconds to change the display mode.

Compressor protection

KJR-25B designers consider the damage to the compressor because of the frequent ON/OFF. So when the working conditions are true, the compressor starts working in 4 minutes. When the working mode alternates between cooling and heating, the compressor starts in 5 minutes.

Energy monitoring

KJR-25B records the working time of the cooling and heating system. It collects the working time of today, yesterday, this week, last week or totally.

Specifications

Model	KJR-25B
Dimensions(H×W×D)(mm)	120×80×31
Power	1.5V(AA)×2 & 24VAC

Air Handling Unit Controller

AHU Controller

CONTROL CABINET (CUSTOMIZED)

Functions

Multiple functions design

The AHU controller is reliable controlling cabinet which can be customized from our factory to perfectly suit the project site. Customers are welcome to customize their desired room temperature, humidity, start-up mode, or operating interface etc, in our factory.

Reliable component selection

To enhance our controller's reliability, we make great effort to compare the devices' parameter and select the most reliable and well-know brand's components to assemble our controller. Most of the components are from international brands such as Schneider®, Siemens®, Honeywell®, etc.

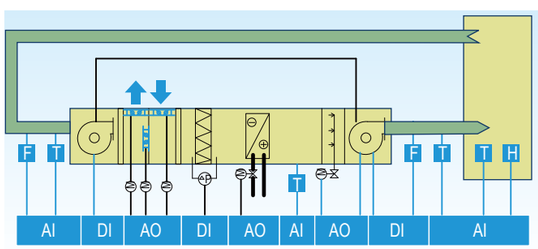
Honeywell

SIEMENS

SIEMENS

Schneider

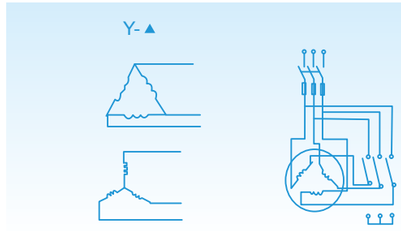
Inverter technology



Our designers use the inverter technology to realize the precise function such as constant pressure, constant humidity, constant airflow. Besides feeding the comfort need, the inverter technology also can help saving the energy.

Star delta starter

Star delta starter helps reducing the motor's startup current and reducing the electricity consumption. By this technology we first connect the motor in a star way and turn to the delta way in a few seconds. It helps reduce the startup current to 1 third and the voltage to about 58%.



Monitoring function

The monitoring function helps the users to check the working condition of the system. The current, voltage, and the working condition of some units are displayed on the controlling cabinet. Users can customize the desired function from our factory.

AHU Controller

CONTROL BOX

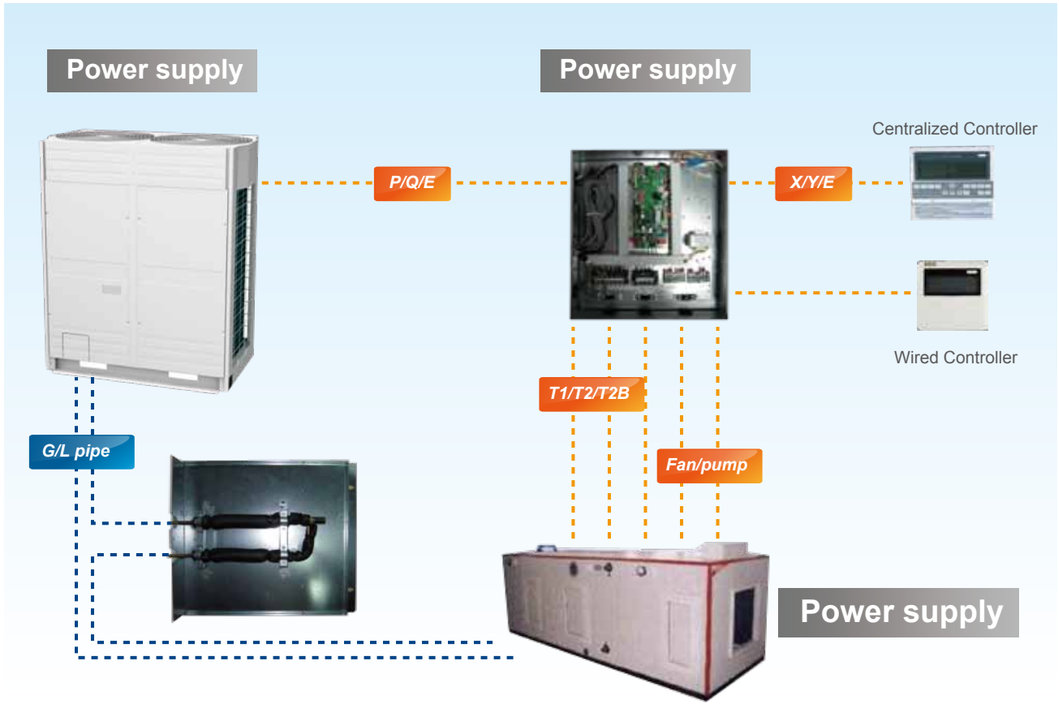
CE-AHUKZ-01/CE-AHUKZ-02

Convert a machine into a multi AC.
Match the new outdoor units.

Introductions

Midea AHU connection kit is an interface to allow other brand manufacturer's DX AHU or VRF indoor units connecting to Midea VRF outdoor units. Midea VRF outdoor units can be used with this connection kit, creating an ideal solution when a unique AHU is required. The composition of the AHU connection kit is as follows:

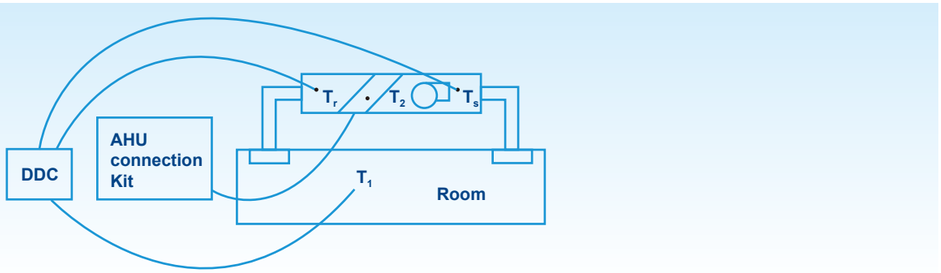
Wiring diagram



Available connecting ways

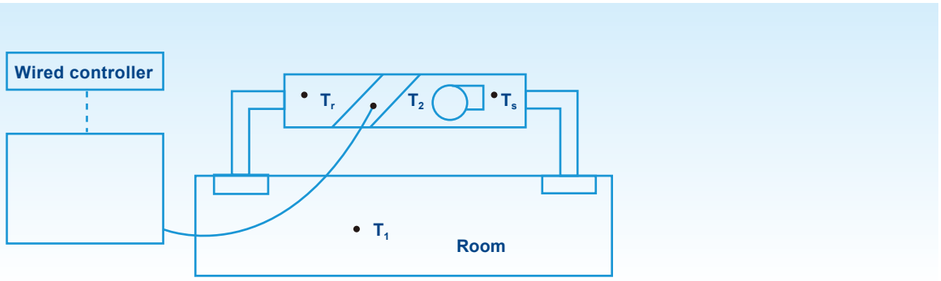
1st: Air temperature control via an external field supplied DDC.

Room temperature is controlled as a function of the return or supply air (customer selection). The DDC controller is translating the temperature difference between set point and air return temperature, or air supply temperature, or room temperature, and controlling compressor operation.



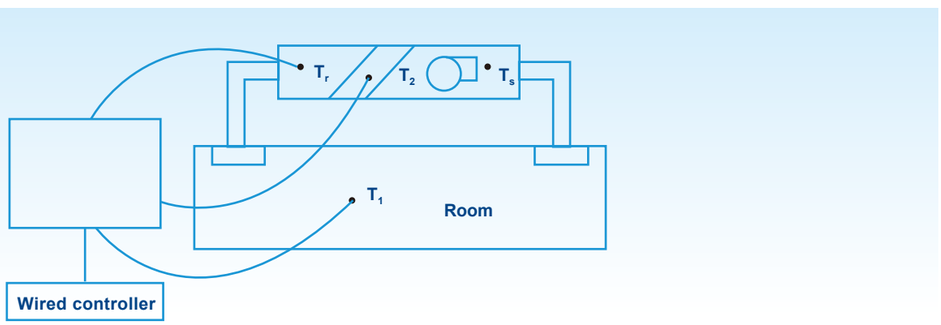
2nd: By fixed evaporating temperature

A fixed target evaporating temperature of between 3ºC and 8ºC can be set by the customer.
The cooling load is determined by the actual evaporating temperature. Wired controller KJR-12B can indicate errors.



3rd: Using Midea wired controller KJR-12B

Set point can be fixed via standard wired controller. The cooling load is determined by the air return temperature and set point on the wired controller.



Specifications

Model	CE-AHUKZ-01/CE-AHUKZ-02
Dimensions(H×W×D)(mm)	485×395×205
Power	198V-220V(50/60Hz)

Memo